

WHAT IS CLAIMED IS:

1. An ink composition comprising an organic solvent and composite colorant polymer particles, wherein said composite colorant polymer particles have a colorant phase and a polymer phase, said polymer phase of said particles being formed in situ in the presence of said colorant, said composite colorant polymer particles having a mean particle size of less than about 200 nm.

2. The composition of Claim 1 wherein said composite colorant polymer particles are made by a process comprising, in order:

I) suspending in an aqueous medium, under agitation, finely divided colorant particles to form an aqueous colorant mixture;

II) adding to said aqueous colorant mixture an addition polymerization initiator; and

III) causing said addition polymerization initiator to form a free radical while continuously introducing to said aqueous colorant mixture a monomer mixture comprising:

a) an addition polymerization initiator, and

b) at least one ethylenically-unsaturated monomer;

thereby forming said composite colorant particles having a colorant phase and a polymer phase.

3. The composition of Claim 1 wherein said colorant phase comprises a pigment.

4. The composition of Claim 3 wherein said pigment is C.I. Pigment Blue 15:3, C.I. Pigment Red 122, C.I. Pigment Yellow 155 or C.I. Pigment Black 7.

5. The composition of Claim 1 wherein the composite colorant particles comprise up to about 20% by weight of said composition.

6. The composition of Claim 1 wherein the composite colorant particles comprise up to about 10% by weight of said composition.

7. The composition of Claim 1 wherein said organic solvent is a mineral oil, soybean oil, toluene, ethylene glycol, diethylene glycol, triethylene glycol, propylene glycol, tetraethylene glycol, polyethylene glycol, glycerol, poly(ethylene glycol) monobutyl ether, diethylene glycol monobutyl ether, xylene, kerosene, naphthalene or liquid paraffin.

8. The composition of Claim 1 wherein said organic solvent comprises from about 10 to about 90% by weight of said composition.

9. The composition of Claim 1 wherein said polymer phase comprises a polymer formed from methyl methacrylate, ethyl methacrylate, butyl methacrylate, ethyl acrylate, butyl acrylate, hexyl acrylate, n-octyl acrylate, lauryl methacrylate, 2-ethylhexyl methacrylate, nonyl acrylate, benzyl methacrylate, 2-hydroxypropyl methacrylate, acrylonitrile, methacrylonitrile, vinyl acetate, vinyl propionate, vinylidene chloride, vinyl chloride, styrene, t-butyl styrene, vinyl toluene, butadiene, isoprene, N,N-dimethyl acrylamide, acrylic acid, methacrylic acid, chloromethacrylic acid, maleic acid, allylamine, N,N-diethylallylamine, vinyl sulfonamide, ammonium acrylate, ammonium methacrylate, acrylamidopropane-triethylammonium chloride, methacrylamidopropane-triethylammonium chloride, or vinyl-pyridine hydrochloride.

10. The composition of Claim 1 wherein said composite colorant polymer particles have a mean particle size of less than about 80 nm.

11. The composition of Claim 1 wherein said polymer phase is cross-linked.

12. The composition of Claim 1 wherein said colorant phase of said composite colorant particles has a mean size of less than about 80 nm and said polymer phase has a weight average molecular weight of greater than about 5000.

13. The composition of Claim 1 wherein said polymer phase has a weight average molecular weight of greater than about 10,000.

14. The composition of Claim 1 wherein the ratio of said colorant phase to said polymer phase is from about 30:70 to about 70:30.